

MPALA MEMOS

NEWS FROM MPALA

TOP STORY

COUNTING OUR GUINEAS: GAMEBIRD MONITORING IN LAIKIPIA



Vulturine Guinea fowl are increasingly common in Laikipia. Photo by Margaret Kinnaird.

Titus Adhola

Gamebird hunting is a popular sport worldwide. Every year in Kenya, locals and

foreign tourists alike flock to the bush to try their luck hunting these birds. Gamebirds are cunning, swift and quite challenging to catch or shoot. This makes matters more interesting for the hunter as it offers the thrill of a difficult chase. Challenge is pleasure!

Gamebird hunting is the only form of sport hunting allowed in Kenya. It has the potential to be a sustainable sport when proper quotas are set and adhered to. However, there is currently no good system by which to monitor gamebird populations in Kenya and set hunting quotas for them.

[...click to continue to page 11](#)

RESEARCH

CAN CATTLE GRAZING CREATE GOOD HABITAT FOR WILDLIFE?

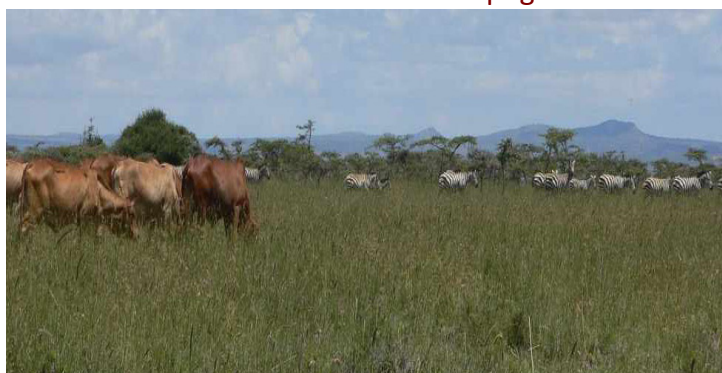
Corinna Riginos

Laikipia, like most of semi-arid Africa, is facing some rather large challenges: wildlife populations are falling, human populations are growing, rainfall is becoming less predictable, and the land is becoming degraded. Now, more than ever, we need to figure out how to manage the land sustainably – in a way that balances the needs of the people and animals that live here. For many Laikipians, that balance lies between managing the land for tourism, which depends on high densities of wildlife,

Understanding how wildlife and livestock can live side by side (right) is one goal of the GRASS project. Photo by Corinna Riginos.

and ranching, which depends on high densities of cattle, sheep, and goats. To help find this balance, several colleagues and I are starting a large experiment here on Mpala. We are calling it the GRASS project (Grazing Rangelands for Sustainable Services).

[...click to continue to page 10](#)



FORMER MPALA-SMITHSONIAN FELLOW RECEIVES WHITLEY AWARD



Dino Martins receiving the Whitley Award from Princess Anne in London this past May. Photo by Whitley Fund for Nature.

Kenyan farmers. Without these insects, many crops would fail. Yet, little has been done to insure that native pollinators' habitats are kept intact. Through his research and outreach efforts in the Rift Valley and Taita Hills regions, Dino hopes to identify important patches of pollinator habitat and work with farmers to protect those areas. Many of these areas are likely to harbor a diverse set of species in addition to the crop pollinators. Protecting these areas, therefore, will be a great boon for farmers and their crops as well as for biodiversity conservation in Kenya.

Congratulations to Dino Martins, who was recently awarded the prestigious Whitley Award from the Whitley Fund for Nature. The annual award honors outstanding conservation scientists from developing countries who show great leadership potential in their field.

The Whitley Award was given to Dino to commend and facilitate this work. The award committee was particularly impressed with how the project integrates conservation and development in areas often overlooked for their biodiversity value. Congratulations, Dino! ■

Dino, who is originally from Eldoret in Western Kenya, received an Mpala-Smithsonian fellowship to facilitate his

“WITHOUT THESE INSECTS, MANY CROPS WOULD FAIL. YET, LITTLE HAS BEEN DONE TO INSURE THAT NATIVE POLLINATORS' HABITATS ARE KEPT INTACT.”

M.Sc. research on hawkmoths and the plants they pollinate. In addition to illuminating the relationships between hawkmoths and native plants on Mpala, Dino also discovered that hawkmoths are important pollinators of exotic fruits, such as papayas, which are important crops for many Kenyan farmers.

Now a Ph.D. student at Harvard University, Dino is building on his M.Sc. work by studying the essential pollination services that native insects provide to



Bluebottle flies and a Tiny Gem lycaenid butterfly pollinate Euphorbia magnicapsula flowers. Photo by Dino Martins.

PEARL ANNIVERSARIES: ASSISTANT RANCH MANAGERS CELEBRATE COMBINED 60 YEARS AT MPALA

Eva Kaye-Zwiebel

Jeremiah Leting and Gabriel Lima, Assistant Managers of Mpala Ranch, are both celebrating their thirtieth anniversaries of working at Mpala this year. Under manager Mike Littlewood, Gabriel is in charge of all that takes place at the Ranch office, including



Jeremiah (left) and Gabriel (right) are each celebrating 30 years of working at Mpala.

Photo by Eva Kaye-Zwiebel.

payroll, petty cash, and a variety of accounts. In turn, Jeremiah manages everything relating to the Ranch cattle, including their health and weekly dips, as well as ranch security. Jeremiah and Gabriel's long history together and mutual affection is evident in the way each helps to tell the other's story of his time at Mpala.

Gabriel was born near Mpala at P&D Ranch and schooled at Kirimon. He started working on Mpala Ranch in 1979 as a general laborer, later moving on to become a gardener, then to maintaining the water pump below the Ranch House, and finally moving into the Ranch office in 1987. He says of Mpala, "This is my first and only job." Having spent his entire career here – and with evident pride at having worked his way up from the bottom – he says that when it is time to stop working at Mpala, it is time to stop working entirely.

Jeremiah, in contrast, arrived at Mpala by a circuitous route. Born in Eldoret in western Kenya, he started working in 1969 as a herder on land that is now part of Mpala, but was then owned by Jack Fairhall. From 1970 to 1975 he worked at Sweetwaters, and then as a driver selling tickets for a sweepstakes. Asked when he started working at Mpala, his answer is very precise, and he and Gabriel recite it in unison: "September 7, 1979," six months after Gabriel's arrival. He, too, worked his way to management from an entry-level position.

Both men speak with great affection about George Small, the founder of the Mpala Wildlife Foundation. They recall him telling them to do everything they could for Mpala. As Gabriel says, "George Small always told us, 'If you take care of Mpala, Mpala will take care of you.'" It is a charge they have both taken to heart.

When asked if he is thinking of retiring, Gabriel laughs and says not for a long, long time. Jeremiah, who is a bit older, plans to retire sooner. Both men think of going into business in their retirement.

Both men are earnest, sincere, and exceptionally polite. Asked whether they have any beans to spill about Mike Littlewood as a boss, they say no. Instead they agree that one of his best assets is his poker face, which betrays nothing of his thoughts. I take a different approach: Can Jeremiah tell any funny stories about his younger brother, Joseph Leting, Assistant Manager at Mpala Research Centre? Jeremiah says no, because unlike himself Joseph was always a well-behaved, serious child.

Mpala thanks and congratulates Gabriel and Jeremiah on all they have accomplished in the past 30 years! ■

MPALA-AT-A-GLANCE

It's been a busy couple of months at Mpala! Some of the highlights include:

Senior News Editors' Visit

- In early June, the International Reporting Project at the Johns Hopkins University School of Advanced International Studies (SAIS) brought 17 editors of major US news outlets to visit Mpala. The editors were exposed first-hand to issues of wildlife conservation and human-wildlife conflict, poverty and land degradation, water shortages, and climate change. The group included editors from the New York Times, the Washington Post, National Public Radio, BBC World Service, and CNN, among others.

Events

- A group of 22 ranchers, researchers, community liaison officers, and group ranch leaders attended a field day on rangeland monitoring in early June. The field day was hosted by Mpala researchers Corinna Riginos, Jayne Belnap, and Siva Sundaresan, as well as US Department of Agriculture ecologist Jeff Herrick. Participants discussed the benefits of long-term monitoring and learned a variety of methods for monitoring changes in rangeland health. The field day will be followed up with a more in-depth workshop in December to accompany the release of a handbook for rangeland monitoring in East Africa.



*USDA ecologist Jeff Herrick demonstrates how to evaluate soil stability.
Photo by Corinna Riginos.*

- The Mpala Wildlife Foundation (MWF) and Mpala Research Trust (MRT) held their annual Board meetings in mid-June. The MWF and MRT trustees were joined by the new Secretary of the Smithsonian, Dr. Wayne Clough, and his wife, Anne, and Drs. Biff Bermingham, Stuart Davies, and Ben Turner, who traveled from the Smithsonian Tropical Research Institute (STRI) in Panama. We were also joined by Dr. Frank Levinson, a close friend and supporter of STRI. In addition to the stimulating and successful meetings, the trustees, partners and visitors experienced a number of classic Mpala highlights (wild dogs, zebras being collared, large herds of elephants, KLEE, UHURU and GRASS plots, and a Baculi Dam barbeque). We hope everyone left feeling very optimistic

...continued on next page



Smithsonian Secretary Dr. Wayne Clough and his wife Anne. Photo by Margaret Kinnaird.

...continued from page 4

about Mpala and the continuation of our strong Smithsonian-Mpala partnership.

Student Groups

• A group of 22 students from the University of British Columbia, the University of Florida, and the University of Nairobi took part in a three-week field course at MRC led by Drs. Jake Goheen and Todd Palmer.

New Faces

• **Stephanie Hauver** is a technician working with Vanessa Ezenwa to study how parasite infection rates relate to behavior in Grant's gazelles.

• **David Kimiti**, an M.Sc. student from the University of Nairobi, is studying Mpala's elephant herds and the changes they are bringing to the landscape.

• **Janet Maclean**, a Ph.D. student from the University of British Columbia, is starting her research on Acacia bush encroachment and population dynamics under different rainfall and herbivory scenarios.

• **Stephen Nyaga**, an intern working with Jake Goheen, is studying small mammal populations under different herbivory scenarios in the UHURU experiment.

• **Renee Petipas**, an M.Sc. student from the University of Vermont, is studying the grasses that grow on termite mounds and the factors that affect their abundance and distribution.

• **Blair Roberts**, a Ph.D. student from Princeton University, is studying the variety of strategies that ungulates employ to protect their offspring from predation.

• Postdoc **Ashley Seifert**, from the University of Florida, is studying spiny mice and their rapid wound-healing properties.

• **Kim VanderWaal**, a Ph.D. student from the University of California, Davis, is starting her research on ungulate herbivores and the tradeoffs they make between foraging and avoiding predation. ■

MPALA MISSION STATEMENT

During the June Board Meetings, the Mpala Wildlife Foundation and the Mpala Research Trust voted on a joint mission statement to represent their combined ambitions. Developing the statement took over a year and included lots of spirited debate, word-smithing and thoughtful enthusiasm. It is not easy to capture the essence and complexity of Mpala in two sentences but we feel we have arrived at a succinct and inspiring statement:

Mpala Mission

Mpala facilitates and exemplifies sustainable human-wildlife co-existence and the advancement of human livelihoods and quality of life. We do this through education, outreach, and by developing science-based solutions to guide conservation actions for the benefit of nature and human welfare.

Mpala ... a living laboratory. ■

“DR. GRAHAM, I PRESUME?”

Margaret Kinnaird

Yes indeed! In early 2009, the University of Michigan bestowed upon Donald C. Graham, Chairman of the Mpala Wildlife Foundation, the honorary degree of Doctor of Engineering. The degree acknowledges “his extraordinary vision and deep-rooted commitment to environmental sustainability.”

The story of how Don created his first engineering company is just one illustration of his vision and commitment. The company started off with no capital and only the basement of Don’s rural Pennsylvania farmhouse as a work space. With characteristic creativity and tenacity, Don transformed his basement operations into what is now the Graham Group, a conglomerate that operates companies world-wide and manages four investment firms.

“BECAUSE OF HIS FATHER’S INTERESTS, DON RECEIVED HIS FIRST LESSONS IN SUSTAINABILITY FROM FORESTRY...”

Another one of Don’s many trailblazing projects is the Graham Environmental Sustainability Institute. Housed on the University of Michigan campus, the Institute provides support for faculty and students from disciplines as diverse as science, public policy, engineering and business to collaborate in forging new ways to integrate economic growth with social responsibility.

Whenever asked what stimulated his interest in environmental sustainability, Don recalls his father, who was a professor at the University of Michigan beginning in the 1920s in what is known today as the School



Dr. Donald C. Graham.

of Natural Resources and Environment. Because of his father’s interests, Don received his first lessons in sustainability from forestry as opposed to the engineering sector he ultimately pursued. With a sly grin, Don loves to remind listeners that as a young man he counted more seedlings and saplings and measured more tree girths than any researcher ever will on Mpala.

Ask Don why he is involved in the Mpala Wildlife Foundation and he’ll give one short answer: “George Small.” Towards the end of his life, George, a life-long friend, asked Don to carry on his dreams for making Mpala a model conservancy, cattle ranch, and research centre. Don couldn’t say no. Since George’s death in 2001, Don has served as Chairman of the Board. His business prowess has helped propel Mpala into new realms and his continued philanthropic largesse has allowed Mpala to expand in critical ways.

Don makes annual pilgrimages to Mpala and is most content staying in a very basic cabin tucked under shrubby trees behind the old Ranch House. Perhaps it reminds him of his farmhouse basement where everything began all those decades ago. ■

ALAN P. SMITH

Truman P. Young

Outside the Mpala Research Centre dining hall, among the ochre-tinged rocks of the building's walls, sits a small bronze plaque dedicating the hall to Alan P. Smith. Many visitors have passed this plaque and wondered who Alan was or how he was connected to Mpala. Sadly, Alan did not live to see the Centre become what it is today, but his legacy, and the pivotal role he played in the Mpala's early history, live on.

Alan Smith was an American plant ecologist who received his Ph.D from Duke University, the Mecca for plant ecology in the 1960s, 70s, and 80s. He studied alpine giant rosette plants (plants whose leaves grow from the base of the plant) in the Andes. After taking simultaneous jobs at the Smithsonian Tropical Research Institute (STRI) and the University of Pennsylvania, he began an ambitious project to compare the giant rosette species in all the tropical alpine environments of the world.

One of his main study sites was Mount Kenya. As his (first) graduate student, I was lucky enough to come with Alan to Kenya in 1977. It was a trip that forever changed my life, as I went on to spend the better part of the next decade studying alpine plants on Mount Kenya.

Alan was tall and slim, but this belied considerable physical strength and energy. I can remember literally jogging to keep up with him as we did errands in Nairobi. He was devoted to his science but could enjoy

a good laugh. He was a superb graduate advisor, supportive and demanding all at once.



Alan Smith, sitting atop one of the canopy cranes he introduced to tropical rainforest research.

In the late 1980s, when George Small was looking to establish the Mpala Research Centre, he approached Princeton University and STRI as potential partners – Princeton because it was George's alma mater and STRI because it had experience running the renowned Barro Colorado field station in Panama, of which Alan was then Director. Both Princeton and STRI were intrigued by the idea of a field station in Kenya, but wary of the benefits relative to costs. In 1989, these two institutions asked Alan to go to Mpala and assess its potential. He invited me to go along, and it changed my life all over again. I can vividly remember our drives around the ranch with John Wreford-Smith, scoping out sites, species, and habitats, and spending the evenings picking John's brain about local natural history. The report that came out of this trip strongly recommended the establishment of the Centre. Without Alan's enthusiastic support for Mpala Research Centre at this critical stage, it might never have been established.

Alan continued working in support of Mpala over the next few years, seeing it get stronger and stronger, even as his own health deteriorated. He died in 1993 at the age of 48, leaving behind a legacy of his own research, a group of colleagues whose careers he shaped, and two world-class field stations (one old, one new) that continue to exemplify his commitment to both research and training. ■

A 'PERFECT' ELEPHANT FAMILY

Yvonne Ayisi

Elephants are very special animals to me: Intelligent, sensitive, loving, tender, caring, complicated, powerful, and funny. I consider myself immensely fortunate to have spent so much time with them.

Over the last six months I have been following elephants on Mpala, trying to determine whether there are families that stay on Mpala year-round. At the beginning of my study, I keenly watched the elephants, trying to distinguish one from another. I began to see the variety of individual physical features: Sex, age, tusk shape and size, ear patterns, body deformities and injuries provide vital clues for identification.

The patterns on the ears in particular make each elephant unique and, with a little practice, easy to recognize. Elephants usually have holes, nicks and tears on the edges of their ears. In addition, the veins in the ears are prominent and the pattern they form is unique, as precise a means of identification as human fingerprints, and a lot easier to see. Eventually, I found I could recognize each elephant in the same way I would recognize a friend walking past on the



Fortune and her family. Photo by Yvonne Ayisi.

other side of a street.

Once I was able to recognize individual elephants, I began photographing their unique aspects and assembling the photos into an album I could refer back to. Photo identification and recognition are important tools in any elephant study. These provide insights into elephant ecology, movement, social behavior and demography that would be difficult or simply impossible to study without being able to recognize each individual elephant.

"THERE IS ONE FAMILY IN PARTICULAR- A CLOSE KNIT THIRTEEN-MEMBER GROUP- THAT I HAVE COME TO THINK OF AS THE PERFECT FAMILY..."

During my time on Mpala, I identified 36 different elephant families, ten of which appear to be permanent residents. There is one family in particular – a close knit thirteen-member group – that I have come to think of as the perfect family because of their balanced composition, their group cohesion, and caring behavior towards one another. The family, which lives in the northern section of Mpala, is led by Fortune

...continued on next page



Bahati is one of the bulls often seen on Mpala. Photo by Yvonne Ayisi.



Fifi. Photo by Yvonne Ayisi.



Fortune, the matriarch, guards the rest of the family. Photo by Yvonne Ayisi.

...continued from page 8

(the matriarch, or the oldest female leading the family unit), and consists of her adult daughters, Fidelity, Fifi and Fiona and nine calves.

Fortune plays an essential role in maintaining group cohesion and stability. As the matriarch, she should have the most acquired knowledge about food resources and other experiences vital to the survival of her family. She not only makes most decisions about the group's movements but also defends the family unit. If disturbed, the group immediately clusters around her and follows her. Fidelity, Fifi and Fiona all cooperate to protect and assist the calves. This kind of behavior makes me think of the group as

a perfect example of how members of an elephant family act towards one another.

I am now returning to Moi University to analyze the data I have collected from Fortune's family and others. In addition to looking at the question of residency, I will use this data to identify areas of high elephant use and model the expected rate of elephant population growth in this area. David Kimiti, an MSc student from the University of Nairobi, will be following up on my research. David will continue to collect information on Mpala's elephant families and begin to investigate the changes they are bringing to the woodland habitat. Hopefully, he will find more and more 'perfect' elephant families! ■



Fidelity. Photo by Yvonne Ayisi.



Fiona. Photo by Yvonne Ayisi.

...continued from page 1

GRASS is designed to test the idea that wildlife and livestock can better live together when they migrate through the landscape, rather than sharing the same land year-round. In the past, large herds of wildlife as well as pastoralists and their livestock migrated through regions like Laikipia. Now, due to human activities, these migrations have largely broken down, which may be damaging rangelands and causing declines in wildlife populations.

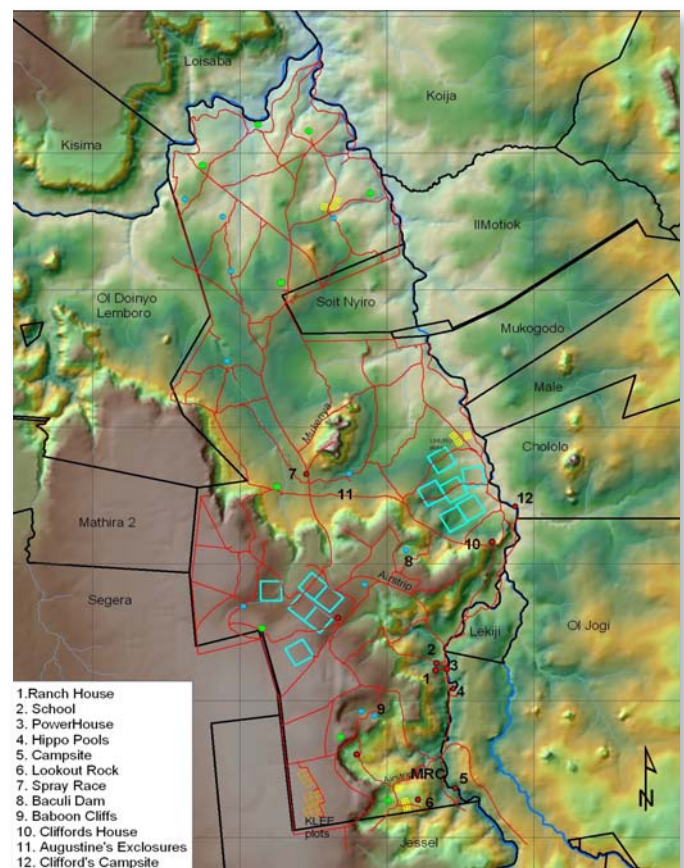
With the GRASS project, we are asking whether a simulated migration using cattle can result in less competition and more positive interactions between cattle and wildlife. Over time, we hope to see if this kind of simulated migration can improve the condition of the rangelands. For example, can we graze cattle in a way that increases the nutritional quality of grass, or increases grass cover and reduces soil erosion?

To answer these questions, we will graze cattle in two different ways: in tightly bunched herds that move frequently (our “simulated migration”), and in herds that are allowed to graze freely through a large area every day (“business as usual”). We will compare the effects of these two grazing practices on grass quality and quantity, soil fertility and erosion, wildlife behavior and abundance, and the performance of the cattle themselves.

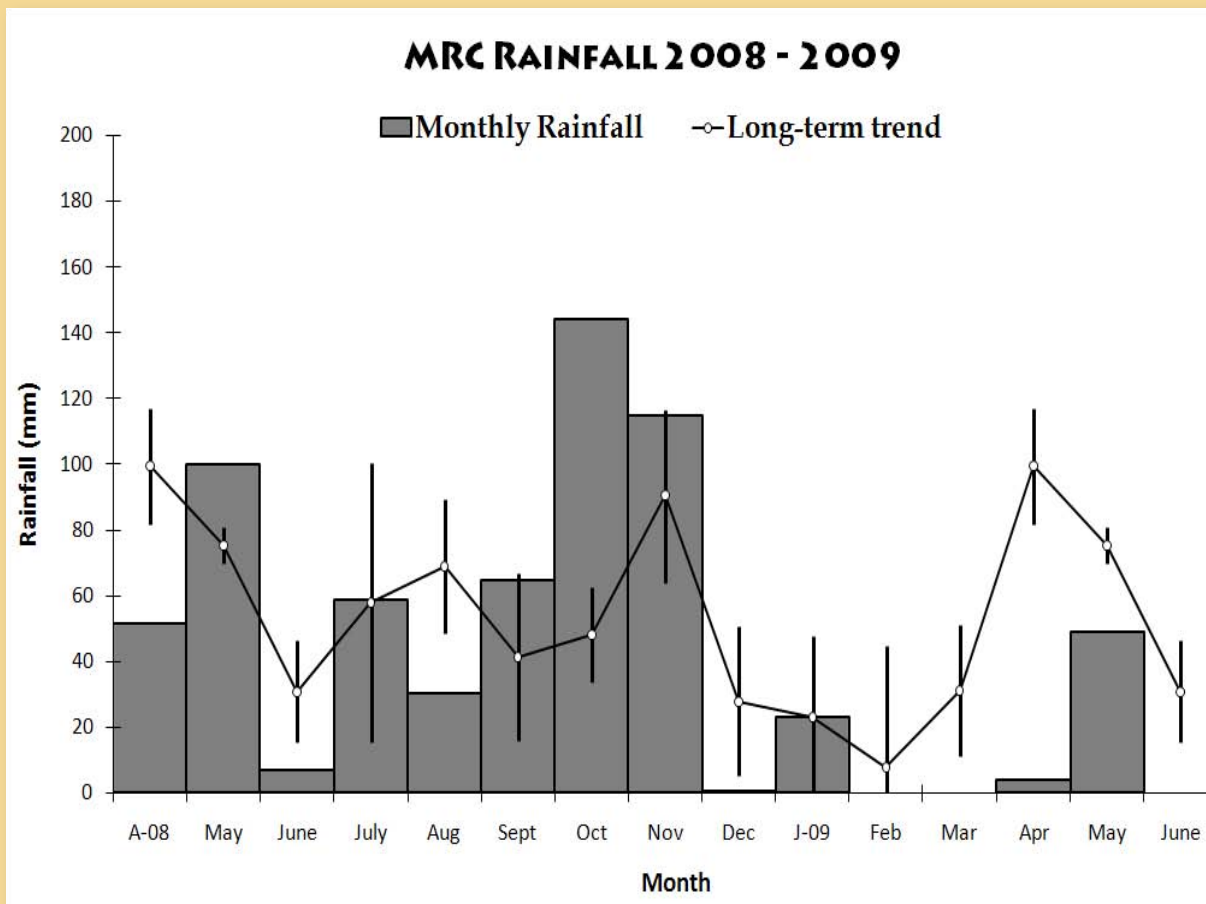
Our experiment is in part inspired by grazing practices used in Holistic Management (HM) but is not designed to test the HM

system. Rather, we aim to test one of the theories on which HM’s “planned grazing” is founded: the idea that simulated migration using intensive cattle grazing can be used to improve the rangeland for cattle and wildlife alike.

We will begin grazing in the experimental plots within the next few months. If you have any questions or comments on this project, please feel free to contact me at criginos@princeton.edu. ■



The GRASS experiment plots (in turquoise) are each 49 hectares. Map by George Aike.



COUNTING OUR GUINEAS: GAMEBIRD MONITORING IN LAIKIPIA

... continued from p.1

Guineafowl are among the most popular gamebirds in Kenya, along with francolins, quails and sandgrouse. Since Laikipia is an important region for gamebird hunting, I set out to develop a system for monitoring guineafowl populations in the district. I focused my research on two species – the Helmeted Guineafowl, which is common in the moister parts of southern Laikipia, and the Vulturine Guineafowl, which is more common in the drier northern reaches of the district.

For more than a year and a half, I monitored the populations, breeding patterns and habitat preferences of these two species on Mpala Ranch and neighboring Ol Jogi Ranch. I found differences in the number and survival of guineafowl depending on location

and season (dry versus wet). For example, I found that most flocks of guineafowl breed at least once every year after the long rains, but they suspend breeding during long dry spells.

From these field results, I was able to predict guineafowl occurrences and distributions across different habitat types in Laikipia using GIS and remote sensing. I found that rainfall and its indirect effects – such as increased vegetation cover, which provides shade and litter for nesting sites, access to drinking water, and availability of plant and insect food – determine how successfully a guineafowl population will thrive.

Based on my results, I designed a monitoring framework to help managers track their

...continued on next page

...continued from previous page

guineafowl populations and set hunting quotas. Monitoring – or counting guineafowl – should be done at least three times a year during the months of January, August and December. This captures well any changes in guineafowl population structure and tells managers when to increase or decrease hunting quotas according to the prevailing environmental conditions. In Laikipia, harvesting quotas should be pegged at 10% of the total population estimates and hunting should take place once a year after the long rains, preferably in August. The harvesting activity should be halted in years marked by drought as the birds will probably not breed.

Gamebird monitoring ensures that a red flag is raised in good time when reductions in populations are recorded. Such warnings can tell managers to suspend any harvesting



Helmeted Guinea fowl are a favorite game bird species in Kenya. Photo by Brad Bergstrom.

activity to allow the gamebird populations to recover. This prevents the risk of shooting our birds to extinction as has been done elsewhere – for example, the Passenger Pigeon in America, the Auk in New Zealand, and the Dodo in Mauritius. We do not want our gamebirds to be as dead as the Dodo! For more information, please contact me at adholatitus@yahoo.com. ■

Most flocks of guineafowl breed at least once a year after the long rains. Picture by Titus Adhola.



MPALA WILDLIFE FOUNDATION & MPALA RESEARCH TRUST

Founder:

George Small (1921-2002)

Mpala Conservancy Manager:

Michael Littlewood

Contact Information

(USA)

Tel: (410) 244-7507

Mpala Wildlife Foundation Trustees:

Donald Graham, Chairman
Giles Davies
Howard Ende
Jeffrey Gonya
Laurel Harvey
Dennis Keller
Ira Rubinoff
John Wreford-Smith
William S. Eisenhart, Jr. Trustee Emeritus

Mpala Research Centre Trustees:

Kenya Wildlife Service
National Museums of Kenya
Princeton University
Smithsonian Institution
Mpala Wildlife Foundation

Mpala Wildlife Foundation
PO Box 137
Riderwood, MD 21139-0137
USA

Mpala Mobile Clinic Coordinator:

Shannon Wreford-Smith
shanni@wananchi.com

(Kenya)

Tel: 254-62-32758

Mpala Research Trust
P.O. Box 555, Nanyuki
Kenya

Executive Director:

Margaret Kinnaird, PhD
mkinnaird@mpala.org

Newsletter Editing and Design

Heather Larkin
Corinna Riginos
Allison Williams
Amy Wolf

www.mpala.org